

REMARKS

Claims 1-9 and 11-24 are pending in the application. Claim 10 has been canceled without prejudice or disclaimer and claim 24 has been newly added. Applicants thank the Examiner for indicating that claims 4-8 include allowable subject matter. Claims 1-3 and 9-20 stand rejected.

Claim Rejections

(A) Claims 1 and 21-23 rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida (U.S. Patent No. 4,365,659) in view of Sakamoto (U.S. Patent No. 6,321,806) and *Mechanics of Pneumatic Tires* (hereinafter “*Mechanics*” or “the *Mechanics* reference”).

(B) Claims 12 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida, Sakamoto and *Mechanics* in view of Minami (U.S. Patent No. 6,079,463).

(C) Claims 2, 9 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida in view of Sugitani (JP 2003-146026).

(D) Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida in view of Sakamoto, *Mechanics* and Sugitani.

(E) Claims 2 and 9-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida in view of Gardner (U.S. Patent No. 3,951,192).

(F) Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida in view of Sakamoto, *Mechanics* and Gardner.

(G) Claims 1 and 14-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishigata (U.S. Patent No. 5,769,983) in view of Sakamoto and *Mechanics*.

Claim 1 and its dependents

(A) Claims 1 and 21-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida (U.S. Patent No. 4,365,659) in view of Sakamoto (U.S. Patent No. 6, 321,806) and Mechanics of Pneumatic Tires (hereinafter “Mechanics” or “the Mechanics reference”).

Applicants respectfully traverse.

Claim 1 recites a rim guard portion which is formed by a hard rubber. The 100% modulus of the hard rubber is not less than 3.0 MPa and is within a range of two to five times as much as that of an outer skin rubber of the sidewall portions of the tire.

The inventors of the present application sought to improve the runflat condition of a tire without sacrificing driving characteristics. (*See* paragraph [0050]). The inventors discovered that if a 100% modulus of the hard rubber constituting a rim guard portion is not less than 3.0 MPa, the rim guard portion is hardly deformed. This reduces a local deformation of the tire’s sidewall and especially of circumferential shearing during a runflat condition. (*See* paragraph [0051]). Additionally, the inventors discovered that making the rubber of the rim guard have a 100% modulus of 2 to 5 times the modulus of the rubber of the sidewall portion minimizes the risk of separation. (*See* paragraph [0052]). The references cited by the Examiner do not disclose a rubber of the rim guard having the claimed modulus value or its relationship to the modulus of the sidewall portion.

The Examiner asserts that Yoshida teaches a rim guard portion (projections 4), but acknowledges that Yoshida does not teach that the projections 4 have a 100% modulus of not less than 3.0 or that the 100% modulus of the projections is 2 to 5 times larger than a modulus of an outer skin rubber of the sidewall. The Examiner seeks to correct these deficiencies with Sakamoto and the *Mechanics* reference, but these references also lack such features.

The only possibly relevant teaching of Sakamoto is that the alleged rim guard portion (rim flange holder) 9 is made of a harder rubber than the sidewall portion 3. (*See* column 3, lines 5-10). However, hardness is not equivalent to a measure of the 100% modulus. The 100% modulus is a measure of tensile stiffness (generally equivalent to Young's modulus), whereas hardness is a measure of compressive stiffness. There is no direct relationship between hardness and 100% modulus. Accordingly, the Sakamoto teachings regarding hardness are not equivalent to a teaching with respect to 100% modulus.

Furthermore, even if the hardness was necessarily indicative of the 100% modulus, Sakamoto teaches nothing at all regarding a 100% modulus of not less than 3.0 MPa. Indeed, Sakamoto simply teaches that the hardness of a rim guard portion 9 is greater than that of a sidewall portion 3. This is not a disclosure of any particular value for the 100% modulus at all, as no specific values for either the rim guard 9 or the sidewall portion 3 are given. The rim guard 9 could have a 100% modulus greater than the sidewall portion 3 and still have a modulus of less than 3.0 MPa. Therefore, Sakamoto provides no guidance with respect to a particular rim guard modulus and simply does not teach the feature of a rim guard with a 100% modulus of not less than 3.0 MPa. Additionally, Sakamoto is directed to bead unseating, not a similar object as the present application. At least because of the different objects, there is no indication that Sakamoto would have been modified to meet the claimed invention.

Sakamoto also does not teach the claimed relationship of the 100% modulus of the rim guard being 2 to 5 times larger than that of an outer skin rubber of the sidewall portions. Again, Sakamoto simply teaches that the rim guard 9 is harder than the sidewall portion 3. It provides no disclosure of any degree to which the rim guard is larger and certainly nothing that would suggest a rim guard having a modulus in the range of 2 to 5 times larger than that of a sidewall

portion. Accordingly, Sakamoto's teachings do not fully encompass the claimed modulus relationship, as suggested by the Examiner. Furthermore, the Examiner asserts that Sakamoto teaches using a harder rubber for the rim guard portion 9 than the sidewalls 3 in order to efficiently prevent the bead from unseating during an underinflated running condition. However, Applicants are unable to find any such teaching in Sakamoto, and the Examiner provides no particular cite for this alleged teaching. In fact, Sakamoto does not appear to provide any specific teachings of advantages from using a harder rubber for the rim guard portion 9 than the sidewalls 3.

Sakamoto as a whole is directed to a tire which reduces bead unseating without posing mounting difficulties. (*See* column 1, lines 23-26 and column 5, lines 19-22). However, Sakamoto focuses on the features of a slit and its properties as allegedly achieving this goal (note, for example, the features included in table 1 in column 5 for comparing the allegedly inventive tire to conventional tires). There is no indication that the greater hardness of the rim guard portion 9 contributes to this benefit or that it would contribute to this benefit outside of the particular slit structure. Accordingly, the Examiner's alleged motivation is deficient at least because Sakamoto does not teach that harder rubber for the rim guard portions provide the alleged benefit of preventing unseating.

The Examiner also cites *Mechanics*, but it is unclear for what purpose the Examiner cites this reference. It is not clear that this reference teaches anything regarding a rim guard. Furthermore, the Examiner provides no explanation of what he believes *Mechanics* teaches or any motivation for modifying Yoshida with this reference. Regardless, *Mechanics* does not appear to correct the deficiencies of Yoshida and Sakamoto.

In summary, one of ordinary skill in the art would not have been motivated to modify Yoshida with Sakamoto and *Mechanics* as suggested by the Examiner. Furthermore, any combination would be deficient at least with respect to the claimed modulus value and relationship. Moreover, since the Examiner has not established a *prima facie* case of obviousness, it is not necessary for Applicant to show unexpected results. Nonetheless, Applicants note that the application does teach the advantages of the claimed modulus, as described above.

Claims 21-23 are allowable at least by virtue of their dependency from claim 1.

(G) Claims 1 and 14-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishigata (U.S. Patent No. 5,769,983) in view of Sakamoto and *Mechanics*.

The Examiner acknowledges that Nishigata lacks a rim guard portion at all, let alone a rim guard portion as claimed. The Examiner attempts to correct this deficiency with Sakamoto and *Mechanics*. However, as discussed above with respect to the rejection (A), Sakamoto and *Mechanics* are also deficient with respect to the claimed rim guard. Accordingly, claim 1 is allowable at least for similar reasons as given above with respect to the rejection (A). Claims 14-23 depend from claim 1 and are allowable at least by virtue of their dependency.

(B) Claims 12 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida, Sakamoto and *Mechanics* in view of Minami (U.S. Patent No. 6,079,463).

Claims 12 and 13 depend from claim 1. Minami is cited only as allegedly teaching a pair of reinforcing belts. Even if the Examiner's assertions regarding Minami were correct, the reference still would not correct the above noted deficiencies of the Yoshida, Sakamoto and *Mechanics*.

Claim 2 and 9-11

(C) Claims 2, 9 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida in view of Sugitani (JP 2003-146026).

(E) Claims 2 and 9-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida in view of Gardner (U.S. Patent No. 3,951,192).

Applicants respectfully traverse.

Sugitani was published on May 21, 2003. The present application claims priority from JP 2003-70,250. JP '250 has a filing date of March 14, 2003 (*before* the Sugitani publication date). At least claims 2, 9 and 10 are fully supported by JP '250. Applicant is filing a certified English translation of the JP '250 priority document to perfect priority with respect to this priority document. Accordingly, Sugitani is removed as prior art with respect to claims 2, 9 and 10 and the rejection (C) is overcome.

Also, claim 2 has been amended to incorporate the subject matter of claim 10. Claim 2 now recites that the reinforcing elements constituting the composite reinforcing layer are filament fibers having a fiber diameter of 0.01-1 mm and a fiber length of not less than 1 mm. The Examiner has failed to identify even a single reference as teaching fibers having diameters and lengths as claimed. Nor has the Examiner identified any apparent reason for modifying one of the references for including fibers with lengths or diameters as claimed. Instead, the Examiner makes the conclusory statement that the claimed diameter and lengths are consistent with those commonly used in the tire industry. The Examiner has provided no documentary support for such a statement. As discussed in MPEP §2144.03, there must be some form of evidence on the record to support an assertion of common knowledge. General conclusions concerning what is basic knowledge without specific factual findings and some concrete

evidence in record to support these finding will not support an obviousness rejection. *See* MPEP §2144.03 B., citing *Lee*, 277 F.3d at 1344-45 and *Zurko*, 258 F.3d at 1386. Since the Examiner has failed to provide any factual evidence to support his conclusions or any motivation for making the alleged modification, Applicants submit that *prima facie* obviousness has not been established. Accordingly, claim 2 and its dependents are allowable.

Furthermore, Applicants note that the cited documents which have a reinforcing layer at the rim guard portion have nothing to do with a tire having a reinforcing rubber which has a generally crescent sectional shape and is arranged at the interior surface side. The reinforcing layer recite din the cited documents is to prevent abrasion or to protect from a curbstone, while the reinforcing layer according to non-limiting embodiments of the present application are to prevent the swelling of the rubber when the side portion is largely deflected during the runflat state. As a result, the durability of the tire can be effectively improved. In this way, the object and effect of the inventions recited in the cited documents are far different from those of the present application.

Claim 3 and its dependents

(D) Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida in view of Sakamoto, *Mechanics* and Sugitani.

(F) Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida in view of Sakamoto, *Mechanics* and Gardner.

Like claim 1, claim 3 recites a rim guard portion which is formed by a hard rubber and that a 100% modulus of the hard rubber is not less than 3.0 MPa and is within a range of two to five times as much as that of an outer skin rubber of the sidewall portions of the tire. Accordingly, claim 3 is allowable at least for reasons similar to claim 1.

New Claims

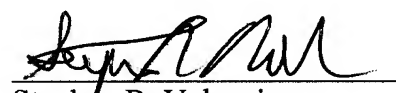
Applicants have added new claim 24 herewith. Claim 24 is allowable at least because the cited references fail to disclose a nonwoven fiber in combination with the other recited elements. Applicants note that the cited references are directed to a reinforcing layer at the rim guard portion and have nothing to do with a tire having a reinforcing rubber which has a generally crescent sectional shape and is arranged at the interior surface side.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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